

Wastewater Treatment Division

MISSION STATEMENT: *The King County Wastewater Treatment Division protects public health and the environment by conveying, treating, and reclaiming wastewater and byproducts.*

WHAT WE DO

The Wastewater Treatment Division (WTD) operates two regional wastewater treatment plants (West Point, South), one smaller treatment plant that is separate from the regional system (Vashon), and two combined sewer overflow treatment plants (Alki, Carkeek). These facilities, together with the major sewer interceptors and pump stations that carry wastewater via 275 miles of underground transmission lines and tunnels, form the backbone of the treatment system. Wastewater receives secondary treatment (except at Carkeek and Alki, which provide primary treatment only), disinfection, and dechlorination before discharge to Puget Sound. The bulk of these services are paid by the local sewer agencies. Citizens of King County receive a sewer service bill from their local sewer service agency, which includes the cost the agency pays for King County wastewater treatment and disposal. In addition, new developments pay a capacity charge to cover their added costs of connecting to the system.

In 2000, King County's wastewater treatment program provided wholesale wastewater conveyance, treatment, and disposal services to 1.3 million customers in 17 cities and 18 local sewer and water districts including north Pierce County and south Snohomish County. The treatment plants processed an average of 216 million gallons of wastewater per day without major incident. In recognition of this performance, both of our treatment facilities received the American Metropolitan Sewerage Agency (AMSA) Gold Award.

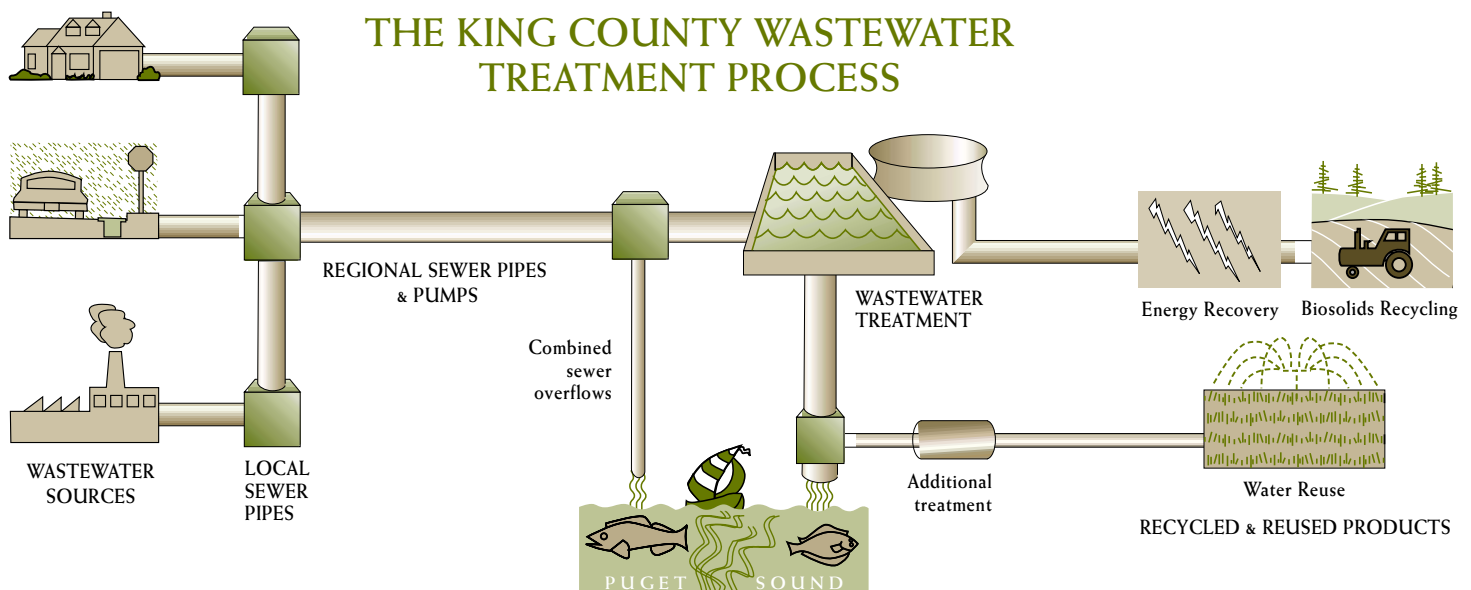
Useful byproducts of the wastewater treatment process are used within the plants or recycled by outside users. For example, 29,320 tons of biosolids were transported and applied to agricultural sites (primarily in Eastern Washington) as a soil amendment. Methane gas is sold or used as fuel to run electrical generators or pumps at the plants. Recycled water is used for irrigation or non-potable uses within as well as outside the plants.

YEAR 2000 ACCOMPLISHMENTS

Beyond WTD's day-to-day successes, two major wastewater treatment initiatives were launched in 2000 – the Productivity Initiative and the Regional Wastewater Services Plan. WTD also scored major accomplishments in constructing projects, initiating the development of a Habitat Conservation Plan, and responding to sudden electrical cost increases.

Productivity Initiative

The Productivity Initiative is a long term pilot program to apply private business practices to the wastewater program that are expected to accomplish ambitious savings of \$67 million over a 10-year-period. The savings will be accomplished via investing in more efficient technologies for treating and reclaiming wastewater, reducing electricity demand, using inventory more efficiently, improving cost accounting, reducing staff positions over time, standardizing equipment, and relying more on staff and less on expensive consultants.



Regional Wastewater Services Plan

The Regional Wastewater Services Plan outlines \$1.3 billion in necessary improvements and expansion to deal with growth over the next 30 years, including the siting of a new treatment plant in the northern part of WTD's service area. This proposed plant will be named "Brightwater."

In the Plan's first year, WTD studied marine outfall locations for the proposed Brightwater Treatment Plant's treated water discharge, and a siting advisory committee helped develop criteria to begin narrowing a list of potential sites for the plant. WTD began planning and design of a number of conveyance projects, including improvements to safeguard the north end against overflows into Lake Washington. The division completed a water reuse work plan that identifies goals, priorities and tasks for a reuse program for the next five years. The "Inflow and Infiltration" team collected information on stormwater and groundwater from over 800 flow monitoring gauges and 73 rain gauges to decrease the unnecessary and costly treatment of clean water at the treatment plants.

Construction Projects

The Wastewater Treatment Division's Design and Construction section completed 85 projects to increase productivity and safety of existing facilities. Another 15 Capital Asset Management Projects were completed that extend the economic/useful life of existing facilities. The section also managed the design and construction of 12 major projects to expand capacity and solve overflow problems, thus protecting public health and the environment. Examples include Denny Way, Henderson and the South Interceptor projects.

The North Creek Diversion Project, which provides more capacity in the Kenmore Interceptor and at the South Treatment Plant, was awarded the Distinguished Project Award in October 2000 by the Northwest Construction Consumer Council.

Habitat Conservation Plan

The Habitat Conservation Plan is a broad review of our current operational and planned system upgrades, examining potential environmental impacts that may affect the species listed in the Endangered Species Act. In 2000, WTD developed a comprehensive list of nearly 70 species to be covered in the HCP. A team of WTD and Water and Land Resources staff began groundbreaking work with National Marine Fisheries

and U.S. Fish and Wildlife Services on potential impacts of WTD discharges on salmonids. WTD also worked directly with the services on the preparation of a stakeholder involvement plan and worked internally to ensure the HCP coordinated with other technical efforts within King County.

Energy Costs

In December 2000, the County Executive and WTD Management declared a state of emergency in response to the energy crisis hitting the West Coast. In addition to conservation measures already in place, the South Plant was able to reduce overall energy use by one-third on the days with the highest rates of the year (average of \$1.08/kwh on Dec. 11). This was achievable through extreme, non-sustainable conservation measures along with shifting flows to West Point. WTD also rented three diesel generators as protection against out-of-control energy rates, and as a power back up during the emergency. Even with these measures, the December 2000 electricity bill for the South Plant was \$1.8 million (compared with \$200,000 a year ago).

In the long term, WTD is expecting energy and environmental dividends from a fuel cell demonstration project that will turn methane gas from sludge digesters into power to run the South Plant, as well as other projects still on the drawing board.

OUTLOOK

To accommodate the rapid growth of our region, King County, in partnership with its citizens, will continue to plan for the future. By 2030, King County must provide 56 million gallons of additional wastewater treatment capacity to meet the needs of our region's growing population. These needs will be met through sound planning and the coordinated effort of all sections of the Division working efficiently.

The Wastewater Treatment Division has joined other forward-looking agencies in the nation in committing to become more efficient in response to threats of privatization. The wastewater program has the full support of the County Executive and the Department of Natural Resources Director to remain a publicly owned facility. Through the participation of every section in the wastewater program, WTD will achieve its savings goals for 2000 and beyond.